

## SEQUENCE LISTING

82  
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<120> CYCLIC DECAPEPTIDE ANTIBIOTICS

<130> 850103.40301

<140> US 09/043,813

<141> 1998-09-29

<160> 78

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<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (4)...(4)

<223> Residue is D-Tyrosine

<221> VARIANT

<222> (7)...(7)

<223> Residue is D-Phynylalanine

<400> 1

Val	Xaa	Leu	Tyr	Pro	Phe	Phe	Asn	Asp	Tyr
1				5					10

<210> 2

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (4)...(4)

<223> Residue is D-Tyrosine

<221> VARIANT

B2  
<222> (7)...(7)

<223> Residue D-Phenylalanine

<400> 2

Val	Xaa	Leu	Tyr	Pro	Phe	Phe	Asn	Asp	Trp
1				5					10

<210> 3

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (4)...(4)

<223> Residue is D-Tyrosine

<221> VARIANT

<222> (7)...(7)

<223> Residue is D-Phenylalanine

<400> 3

Val	Xaa	Leu	Tyr	Pro	Trp	Phe	Asn	Asp	Trp
1				5					10

<210> 4

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (1)...(1)

<223> Butyrine

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 4

Xaa	Xaa	Leu	Tyr	Pro	Phe	Phe	Asn	Asp	Tyr
1				5					10

<210> 5

<211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (1)...(1)  
 <223> Butyrine

<221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In  
 preferred embodiment residues 1-3, 5-6, 8-10 have  
 L-stereochemistry and residues 4 and 7 have  
 D-stereochemistry

<400> 5  
 Xaa Xaa Leu Tyr Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 6  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (1)...(1)  
 <223> Butyrine

<221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In  
 preferred embodiment residues 1-3, 5-6, 8-10 have  
 L-stereochemistry and residues 4 and 7 have  
 D-stereochemistry

<400> 6  
 Xaa Xaa Leu Tyr Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 7  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Dbu

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 7  
 Val Xaa Leu Tyr Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 8  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Dbu

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 8  
 Val Xaa Leu Tyr Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 9  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Dbu

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 9  
 Val Xaa Leu Tyr Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 10  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In  
 preferred embodiment residues 1-3, 5-6, 8-10 have  
 L-stereochemistry and residues 4 and 7 have  
 D-stereochemistry

<400> 10  
 Val Xaa Ile Tyr Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 11  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In  
 preferred embodiment residues 1-3, 5-6, 8-10 have  
 L-stereochemistry and residues 4 and 7 have  
 D-stereochemistry

<400> 11  
 Val Xaa Ile Tyr Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 12  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>

<221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 12  
 Val Xaa Ile Tyr Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 13  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> aIle

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 13  
 Val Xaa Xaa Tyr Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 14  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> aIle

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In  
 preferred embodiment residues 1-3, 5-6, 8-10 have  
 L-stereochemistry and residues 4 and 7 have  
 D-stereochemistry

<400> 14  
 Val Xaa Xaa Tyr Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 15  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> aIle

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In  
 preferred embodiment residues 1-3, 5-6, 8-10 have  
 L-stereochemistry and residues 4 and 7 have  
 D-stereochemistry

<400> 15  
 Val Xaa Xaa Tyr Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 16  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> Nva

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In

preferred embodiment residues 1-3, 5-6, 8-10 have  
L-stereochemistry and residues 4 and 7 have  
D-stereochemistry

<400> 16  
Val Xaa Xaa Tyr Pro Phe Phe Asn Asp Tyr  
1 5 10

<210> 17  
<211> 10  
<212> PRT  
<213> Bacillus laterosporus

<220>  
<221> MOD\_RES  
<222> (2)...(2)  
<223> Orn

<221> MOD\_RES  
<222> (3)...(3)  
<223> Nva

<221> VARIANT  
<222> (1)...(10)  
<223> All residues can have L- or D- Stereochemistry. In  
preferred embodiment residues 1-3, 5-6, 8-10 have  
L-stereochemistry and residues 4 and 7 have  
D-stereochemistry

<400> 17  
Val Xaa Xaa Tyr Pro Phe Phe Asn Asp Trp  
1 5 10

<210> 18  
<211> 10  
<212> PRT  
<213> Bacillus laterosporus

<220>  
<221> MOD\_RES  
<222> (2)...(2)  
<223> Orn

<221> MOD\_RES  
<222> (3)...(3)  
<223> Nva

<221> VARIANT  
<222> (1)...(10)  
<223> All residues can have L- or D- Stereochemistry. In  
preferred embodiment residues 1-3, 5-6, 8-10 have  
L-stereochemistry and residues 4 and 7 have  
D-stereochemistry



<400> 18  
 Val Xaa Xaa Tyr Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 19  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> Cyclopropylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 19  
 Val Xaa Xaa Tyr Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 20  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> Cyclopropylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 20  
 Val Xaa Xaa Tyr Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 21  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> Cyclopropylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 21  
 Val Xaa Xaa Tyr Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 22  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (3)...(3)  
 <223> Nle

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 22  
 Val Xaa Xaa Tyr Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 23  
 <211> 10  
 <212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (3)...(3)

<223> Nle

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 23

Val	Xaa	Xaa	Tyr	Pro	Phe	Phe	Asn	Asp	Trp
1				5					10

<210> 24

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (3)...(3)

<223> Nle

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 24

Val	Xaa	Xaa	Tyr	Pro	Trp	Phe	Asn	Asp	Trp
1				5					10

<210> 25

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (4)...(4)  
 <223> p-fluorophenylalmine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 25  
 Val Xaa Leu Xaa Pro Phe Phe Asn Asp Tyr  
 1                      5                      10

<210> 26  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (4)...(4)  
 <223> p-fluorophenylalmine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 26  
 Val Xaa Leu Xaa Pro Phe Phe Asn Asp Trp  
 1                      5                      10

<210> 27  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (4)...(4)  
 <223> p-fluorophenylalmine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 27  
 Val Xaa Leu Xaa Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 28  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn.

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 28  
 Val Xaa Leu Trp Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 29  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 29  
 Val Xaa Leu Trp Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 30  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 30  
 Val Xaa Leu Trp Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 31  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (4)...(4)  
 <223> Thienylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 31  
 Val Xaa Leu Xaa Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 32  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (4)...(4)  
 <223> Thienylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 32  
 Val Xaa Leu Xaa Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 33  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (4)...(4)  
 <223> Thienylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 33  
 Val Xaa Leu Xaa Pro Trp Phe Asn Asp Trp  
 1 5 10

<210> 34  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES

<222> (2)...(2)  
<223> Orn

<221> MOD\_RES  
<222> (5)...(5)  
<223> Azetidine-2-carboxylic acid

<221> VARIANT  
<222> (1)...(10)  
<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 34  
Val Xaa Leu Tyr Xaa Phe Phe Asn Asp Tyr  
1 5 10

<210> 35  
<211> 10  
<212> PRT  
<213> Bacillus laterosporus

<220>  
<221> MOD\_RES  
<222> (2)...(2)  
<223> Orn

<221> MOD\_RES  
<222> (5)...(5)  
<223> Azetidine-2-carboxylic acid

<221> VARIANT  
<222> (1)...(10)  
<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 35  
Val Xaa Leu Tyr Xaa Phe Phe Asn Asp Trp  
1 5 10

<210> 36  
<211> 10  
<212> PRT  
<213> Bacillus laterosporus

<220>  
<221> MOD\_RES  
<222> (2)...(2)  
<223> Orn

<221> MOD\_RES



<222> (5)...(5)  
 <223> Azetidine-2-carboxylic acid

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 36  
 Val Xaa Leu Tyr Xaa Trp Phe Asn Asp Trp  
 1 5 10

<210> 37  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (5)...(5)  
 <223> Pipecolic acid

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 37  
 Val Xaa Leu Tyr Xaa Phe Phe Asn Asp Tyr  
 1 5 10

<210> 38  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (5)...(5)  
 <223> Pipecolic acid

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 38

Val	Xaa	Leu	Tyr	Xaa	Phe	Phe	Asn	Asp	Trp
1				5					10

<210> 39

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (5)...(5)

<223> Pipecolic acid

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 39

Val	Xaa	Leu	Tyr	Xaa	Trp	Phe	Asn	Asp	Trp
1				5					10

<210> 40

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (5)...(5)

<223> trans-3-methylproline

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have

L-stereochemistry and residues 4 and 7 have  
D-stereochemistry

<400> 40  
Val Xaa Leu Tyr Xaa Phe Phe Asn Asp Tyr  
1 5 10

<210> 41  
<211> 10  
<212> PRT  
<213> Bacillus laterosporus

<220>  
<221> MOD\_RES  
<222> (2)...(2)  
<223> Orn

<221> MOD\_RES  
<222> (5)...(5)  
<223> trans-3-methylproline

<221> VARIANT  
<222> (1)...(10)  
<223> All residues can have L- or D- Stereochemistry. In  
preferred embodiment residues 1-3, 5-6, 8-10 have  
L-stereochemistry and residues 4 and 7 have  
D-stereochemistry

<400> 41  
Val Xaa Leu Tyr Xaa Phe Phe Asn Asp Trp  
1 5 10

<210> 42  
<211> 10  
<212> PRT  
<213> Bacillus laterosporus

<220>  
<221> MOD\_RES  
<222> (2)...(2)  
<223> Orn

<221> MOD\_RES  
<222> (5)...(5)  
<223> trans-3-methylproline

<221> VARIANT  
<222> (1)...(10)  
<223> All residues can have L- or D- Stereochemistry. In  
preferred embodiment residues 1-3, 5-6, 8-10 have  
L-stereochemistry and residues 4 and 7 have  
D-stereochemistry

B2  
Cont.

<400> 42  
 Val Xaa Leu Tyr Xaa Trp Phe Asn Asp Trp  
 1 5 10

<210> 43  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (5)...(5)  
 <223> trans-4-fluoroproline

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 43  
 Val Xaa Leu Tyr Xaa Phe Phe Asn Asp Tyr  
 1 5 10

<210> 44  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (5)...(5)  
 <223> trans-4-fluoroproline

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 44  
 Val Xaa Leu Tyr Xaa Phe Phe Asn Asp Trp  
 1 5 10

<210> 45  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (5)...(5)  
 <223> trans-4-fluoroproline

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 45  
 Val Xaa Leu Tyr Xaa Trp Phe Asn Asp Trp  
 1 5 10

<210> 46  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 46  
 Val Xaa Leu Tyr Pro Tyr Phe Asn Asp Tyr  
 1 5 10

<210> 47  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 47

Val	Xaa	Leu	Tyr	Pro	Tyr	Phe	Asn	Asp	Trp
1				5					10

<210> 48

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (6)...(6)

<223> p-fluorophenylalamine

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 48

Val	Xaa	Leu	Tyr	Pro	Xaa	Phe	Asn	Asp	Tyr
1				5					10

<210> 49

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (6)...(6)

<223> p-fluorophenylalamine

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 49

Val Xaa Leu Tyr Pro Xaa Phe Asn Asp Trp  
1 5 10

<210> 50

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 50

Val Xaa Leu Tyr Pro Trp Phe Asn Asp Tyr  
1 5 10

<210> 51

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 51

Val Xaa Leu Tyr Pro Trp Phe Asn Asp Trp  
1 5 10

<210> 52

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<211> 10
<212> PRT
<213> Bacillus laterosporus

<220>
<221> MOD_RES
<222> (2)...(2)
<223> Orn

<221> MOD_RES
<222> (6)...(6)
<223> Thienylalanine

<221> VARIANT
<222> (1)...(10)
<223> All residues can have L- or D- Stereochemistry. In
      preferred embodiment residues 1-3, 5-6, 8-10 have
      L-stereochemistry and residues 4 and 7 have
      D-stereochemistry

<400> 52
Val Xaa Lys Tyr Pro Xaa Phe Asn Asp Tyr
 1             5             10

<210> 53
<211> 10
<212> PRT
<213> Bacillus laterosporus

<220>
<221> MOD_RES
<222> (2)...(2)
<223> Orn

<221> MOD_RES
<222> (6)...(6)
<223> Thienylalanine

<221> VARIANT
<222> (1)...(10)
<223> All residues can have L- or D- Stereochemistry. In
      preferred embodiment residues 1-3, 5-6, 8-10 have
      L-stereochemistry and residues 4 and 7 have
      D-stereochemistry

<400> 53
Val Xaa Leu Tyr Pro Xaa Phe Asn Asp Trp
 1             5             10

<210> 54
<211> 10
<212> PRT
<213> Bacillus laterosporus

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<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (6)...(6)  
 <223> beta-phenylserine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 54  
 Val Xaa Leu Tyr Pro Xaa Phe Asn Asp Tyr  
 1 5 10

<210> 55  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (6)...(6)  
 <223> beta-phenylserine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 55  
 Val Xaa Leu Tyr Pro Xaa Phe Asn Asp Trp  
 1 5 10

<210> 56  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 56  
 Val Xaa Leu Tyr Pro Phe Tyr Asn Asp Tyr  
 1 5 10

<210> 57  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 57  
 Val Xaa Leu Tyr Pro Phe Tyr Asn Asp Trp  
 1 5 10

<210> 58  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (7)...(7)  
 <223> p-fluorophenylalamine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 58  
 Val Xaa Leu Tyr Pro Phe Xaa Asn Asp Tyr  
 1 5 10

<210> 59  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (7)...(7)  
 <223> p-fluorophenylalamine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 59  
 Val Xaa Leu Tyr Pro Phe Xaa Asn Asp Trp  
 1 5 10

<210> 60  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 60  
 Val Xaa Leu Tyr Pro Phe Trp Asn Asp Tyr  
 1 5 10

<210> 61  
 <211> 10

<212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 61  
 Val Xaa Leu Tyr Pro Phe Trp Asn Asp Trp  
 1 5 10

<210> 62  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (7)...(7)  
 <223> Thienylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 62  
 Val Xaa Leu Tyr Pro Phe Xaa Asn Asp Tyr  
 1 5 10

<210> 63  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (7)...(7)  
 <223> Thienylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 63  
 Val Xaa Leu Tyr Pro Phe Xaa Asn Asp Trp  
 1 5 10

<210> 64  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (7)...(7)  
 <223> beta-phenylserine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 64  
 Val Xaa Leu Tyr Pro Phe Xaa Asn Asp Tyr  
 1 5 10

<210> 65  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (7)...(7)

<223> beta-phenylserine

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 65

Val	Xaa	Leu	Tyr	Pro	Phe	Xaa	Asn	Asp	Trp
1				5					10

<210> 66

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 66

Val	Xaa	Leu	Tyr	Pro	Trp	Phe	Asn	Asp	Tyr
1				5					10

<210> 67

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (10)...(10)

<223> p-fluorophenylalamine

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have

## D-stereochemistry

<400> 67  
 Val Xaa Leu Tyr Pro Phe Phe Asn Asp Xaa  
 1 5 10

<210> 68  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (10)...(10)  
 <223> p-fluorophenylalamine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 68  
 Val Xaa Leu Tyr Pro Trp Phe Asn Asp Xaa  
 1 5 10

<210> 69  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 69  
 Val Xaa Leu Tyr Pro Phe Phe Asn Asp Phe  
 1 5 10

B2  
 Chant

<210> 70  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 70  
 Val Xaa Leu Tyr Pro Trp Phe Asn Asp Phe  
 1 5 10

<210> 71  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> MOD\_RES  
 <222> (10)...(10)  
 <223> Thienylalanine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 71  
 Val Xaa Leu Tyr Pro Phe Phe Asn Asp Xaa  
 1 5 10

<210> 72  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES



<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (10)...(10)

<223> Thienylalanine

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 72

Val	Xaa	Leu	Tyr	Pro	Trp	Phe	Asn	Asp	Xaa
1				5					10

<210> 73

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES

<222> (10)...(10)

<223> beta-phenylserine

<221> VARIANT

<222> (1)...(10)

<223> All resdues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 73

Val	Xaa	Leu	Tyr	Pro	Phe	Phe	Asn	Asp	Xaa
1				5					10

<210> 74

<211> 10

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> MOD\_RES  
 <222> (10)...(10)  
 <223> beta-phenylserine

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry. In preferred embodiment residues 1-3, 5-6, 8-10 have L-stereochemistry and residues 4 and 7 have D-stereochemistry

<400> 74  
 Val Xaa Leu Tyr Pro Trp Phe Asn Asp Xaa  
 1 5 10

<210> 75  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry

<400> 75  
 Val Xaa Leu Tyr Pro Phe Phe Asn Asp Tyr  
 1 5 10

<210> 76  
 <211> 10  
 <212> PRT  
 <213> Bacillus laterosporus

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Orn

<221> VARIANT  
 <222> (1)...(10)  
 <223> All residues can have L- or D- Stereochemistry

<400> 76  
 Val Xaa Leu Tyr Pro Phe Phe Asn Asp Trp  
 1 5 10

<210> 77  
 <211> 10  
 <212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (2)...(2)

<223> Orn

<221> VARIANT

<222> (1)...(10)

<223> All residues can have L- or D- Stereochemistry

<400> 77

Val Xaa Leu Tyr Pro Trp Phe Asn Asp Trp  
1 5 10

<210> 78

<211> 5

<212> PRT

<213> Bacillus laterosporus

<220>

<221> MOD\_RES

<222> (3)...(3)

<223> Orn

<400> 78

Trp Val Xaa Leu Tyr  
1 5

B2  
Conclude